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CURRENT LITERATURE

BOOK REVIEWS

Experimental genetics

When one of the foremost investigators in any science has the additional ability which enables him to write a clear, well balanced textbook, it is only just that public appreciation should increase in geometrical proportion, for such proficiency is rare. For this reason the writer feels sure that he voices a unanimous sentiment among geneticists in thanking Dr. BAUR for bringing up to date his *Introduction to experimental genetics*. The original edition, published in 1911, probably had fewer defects in judgment of values than any of the textbooks on the subjects that have been issued so frequently since 1900. The new edition,¹ with 100 added pages, fully sustains this opinion. And such a seemingly odious comparison with other books is no disparagement of their value, for most other volumes on genetics have treated only particular phases of the subject. If any broad criticism can be made of either edition, it is that biometrical and cytological results have hardly been given the space they merit, though the present edition has partially abrogated this deficiency.

The author follows the general plan of the first edition, the additional pages being made necessary because of the numerous investigations of the past two years. The first two chapters lay a foundation for discussing the inheritance of acquired characters. In reality they are concerned with plant physiology and morphology from the genetic standpoint. By making use of elementary biometrical formulas, the changes during ontogeny due to varying external conditions are carefully explained, emphasis being laid on the variation in ability to react to stimuli at different parts of the life cycle. Then follow two chapters in which the more modern experimental attacks on the inheritance of modifications are clearly and logically described and criticized.

The next 100 pages are filled with Mendelian results. The elementary principles are described well and many new illustrations are used, but the more recent work is not adequately treated. For example, the marvelous work of MORGAN in analyzing the germ plasm of *Drosophila* is hardly mentioned. One is the more astonished at this omission when he sees that several pages are given over to BATESON's theory of partial coupling, a theory that cannot compare with MORGAN's for ingenuity, reasonability, and logical agreement with facts.

¹ BAUR, E., Einführung in die experimentelle Vererbungslehre. Zweite Auflage. viii+401, mit 131 Textfiguren und 10 farbigen Tafeln. Berlin: Gebrüder Borntraeger. 1914.

The next chapter discusses the apparent cases of non-Mendelian heredity, inheritance only through the mother, and vegetative segregation in the first hybrid generation. This is followed by some 30 pages on the inheritance of sex, which is not wholly satisfactory on account of the omission of so much recent work from both the cytological and the pedigree culture side. Odds and ends are picked up in the next two chapters. The first is largely an account of the many peculiar results occurring in species crosses to which as yet there is no satisfactory explanation. The other describes graft hybrids and xenia.

The six remaining chapters are rather general in character, and partly for this reason are highly recommended to biologists who are not specialists in genetics. They deal with questions of variation and heredity in a broad way, from the viewpoint of a man thoroughly conversant with all modern investigations, philosophical as well as experimental.

It has been generally understood that an English translation was to appear simultaneously with the German edition. Let us hope that the war will only delay and not prevent its publication.—E. M. EAST.

MINOR NOTICES

A manual of weeds.—The present volume² is probably the most extensive and exhaustive weed manual yet published. In fact, the author has taken the term "weed" in its broadest sense and has included many plants not usually regarded as pernicious; for example, the list embraces several of the golden rods, clovers, asters, and roses, and even such trees as the wild black and choke cherries. About 500 species are described in semi-technical terms and three-fourths of them are illustrated by habit drawings. They are arranged under their respective families, but no keys or other means of identification are supplied. This seems to be the greatest defect of the manual and one that might have been rather easily remedied. Both common and scientific names are given, the former including some of the more common synonyms, and the range is made to include all of the United States and Canada. The illustrations, although rather small, will certainly prove to be one of the most useful features of the book, enabling any one with a minimum of scientific training to recognize with considerable accuracy all weedy plants of common occurrence.

Like the other volumes of this series of "Rural manuals" edited by L. H. BAILEY, this manual of weeds will be found useful as a textbook in agricultural colleges, but it makes its strongest appeal to the practical tiller of the soil. In this connection it is gratifying to note that the problems of weed control receive considerable attention, although the importance of rotation of crops seems to be less emphasized than its efficiency deserves.—GEO. D. FULLER.

² GEORGIA, ADA E., *A manual of weeds*. 12mo. pp. xi+561. figs. 385. New York: Macmillan. 1914. \$2.00.